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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/720,778

11/24/2003

Eric Arthur Johnson

2003-1

8646

34468

7590

09/23/2004

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EXAMINER

FITZGERALD, JOHN P

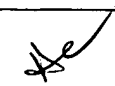
ART UNIT

PAPER NUMBER

2856

DATE MAILED: 09/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/720,778	Applicant(s) JOHNSON ET AL.	
	Examiner John P Fitzgerald	Art Unit 2856	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-35 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>10 May 2004</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. § 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 31 is rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 31 recites the limitation "the shot interval and temperature" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 15-18, 20, 21, 23, 24, 27, 29, 30, 33-35 are rejected under 35 U.S.C. § 102(b) as being anticipated by US 5,402,678 to Fritz et al. Fritz et al. disclose an electronic system for collecting data from small-arms (Figs. 1-4b) that has a programmable threshold level (Fritz et al.: col. 3, line 66 to col. 4, lines 19) for distinguishing between signals resulting from shots fired and from other external sources (Fritz et al.: col. 8, lines 53-62) (as recited in claim 15); (note: see Merriam-Webster's Dictionary 10th edition definition of "program" below) means (sensor 4) to supply an electrical signal to a processor (6) when a shot is fired (as recited in claim 16); wherein the supply means is an accelerometer (i.e. Hall-effect device) inertial switch,

Art Unit: 2856

acoustic/microphone (Fritz et al.: col. 3, lines 42-45 and col. 4, lines 57-65) (as recited in claims 17, 18, 20 and 21), wherein the processor goes into a low-power, sleep-mode after a programmable interval has passed with not shots detected and powers op-amps (i.e. switching circuits) for reducing power consumption (Fritz et al.: col. 6, lines 31-47) (as recited in claims 23 and 24); wherein the interval between firing of shots and or firing rate are recorded (see Fig. 3b) (as recited in claims 27 and 29); an interface is provided to transfer data from the device to a computer or other collection device (Fritz et al.: col. 6, lines 9-24) (as recited in claim 30); wherein the date and time are recorded in non-volatile memory (8) (note: non-volatile memory is an inherent feature of recording/storage devices for permanent storage of information) as well as details regarding the specific weapon (Fritz et al. col. 5, lines 29-48) (as recited in claims 32-35).

Note: Functional recitation(s) using the words “for” have been given little patentable weight because they fail to add any structural limitations and thereby regarded as intended use language.

A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. *In re Finstewalder*, 436 F.2d 1028, 168 USPQ 530 (CCPA 1971); *In re Casey*, 370 F.2d 576, 152 USPQ 235 (CCPA 1967) (“The manner or method in which such machine is to be utilized is not germane to the issue of patentability of the machine itself.”); *In re Otto*, 136 USPQ 458, 459 (CCPA 1963). When interpreting functional language, if the prior art is capable of performing the claimed function—even if not directly disclosed—it anticipates. *In re Schreiber*, 128 F.3d 1473, 1478, 44 USPQ2d 1429, 1432 (Fed. Cir. 1997); *In re Sinex*, 309 F.2d 488, 135 USPQ 302 (CCPA 1962). See also MPEP § 2114, 2115.

Art Unit: 2856

Merriam-Webster's Dictionary 10th edition defines program as:

Main Entry: **²program**

Variant(s): *also* **programme**

Function: *transitive verb*

Inflected Form(s): **-grammed or -gramed; -gram·ming or -gram·ing**

1 a : to arrange or furnish a program of or for : **BILL b** : to enter in a program

2 : to work out a sequence of operations to be performed by (a mechanism) : provide with a program

3 a : to insert a program for (a particular action) into or as if into a mechanism **b** : to control by or as if by a program **c** (1) : to code in an organism's program (2) : to provide with a biological program <cells programmed to synthesize hemoglobin>

4 : to predetermine the thinking, behavior, or operations of as if by computer programming <children are programmed into violence -- Lisa A. Richette>

- **pro·gram·ma·bil·i·ty** prO-"gra-m&-"bi-l&-tE/ *noun*

- **pro·gram·ma·ble** 'prO-"gra-m&-b&l/ *adjective or noun*

5. Claims 15-18, 20, 21, 27, 29 and 30 are rejected under 35 U.S.C. § 102(b) as being anticipated by US 5,566,486 to Brinkley. Brinkley discloses an electronic system for collecting data from small-arms (Figs. 1-4) that has a programmable threshold level (Brinkley: col. 4, lines 3) for distinguishing between signals resulting from shots fired and from other external sources (as recited in claim 15); (note: see Merriam-Webster's Dictionary 10th edition definition of "program" above) means (sensor 4) to supply an electrical signal to a processor (6) when a shot is fired (as recited in claim 16); wherein the supply means is an accelerometer (i.e. Hall-effect device) inertial switch (Brinkley: col. 2, lines 45-62 and col. 4, lines 50-65) (as recited in claims 17, 18 and 21); wherein the interval between firing of shots and or firing rate are recorded (Brinkley: col. 7, lines 2-11) (as recited in claims 27 and 29) and an interface is provided to transfer data from the device to a computer or other collection device (Brinkley: col. 6, lines 26-39) (as recited in claim 30).

6. Claims 15, 16, 21, 23, 24, 27, 29, 30 and 32-35 are rejected under 35 U.S.C. § 102(b) as being anticipated by US 6,643,968 to Glock. Glock discloses an electronic system for collecting data from small-arms (Figs. 1-6) that has a programmable threshold level for distinguishing

Art Unit: 2856

between signals from two separate sensors or sensing means resulting from shots fired and from other external sources (Glock: col. 3, lines 10-57) (as recited in claim 15); (note: see Merriam-Webster's Dictionary 10th edition definition of "program" below) means (sensor 4) to supply an electrical signal to a processor (14) when a shot is fired (as recited in claim 16); wherein the supply means is an piezoelectric film and/or induction coil (i.e. Hall-effect device)(Glock: col. 2, lines 1-21) (as recited in claim 21), wherein the processor goes into a low-power, sleep-mode after a programmable interval has passed with not shots detected and powers op-amps (i.e. switching circuits)for reducing power consumption (Glock.: col. 4, lines 18-28) (as recited in claims 23 and 24); wherein the interval between firing of shots and or firing rate are recorded in real-time via a real-time clock (16) (Glock: col. 2, lines 32-38) (as recited in claims 27 and 29); an interface (19) is provided to transfer data from the device to a computer or other collection device (Glock: col. 2, lines 38-48) (as recited in claim 30); wherein the date and time are recorded in non-volatile memory/processor (14) (Glock: col. 3, lines 49-60) as well as details regarding the specific weapon (Glock. col. 3, lines 1-13) (as recited in claims 32-35).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-9 and 10-14 are rejected under 35 U.S.C. § 103(a) as being unpatentable over US 4,541,191 to Morris et al. and US 20030167909 A1 to Matter. Morris et al. disclose a device

Art Unit: 2856

for collecting data on small-arms usage (figure below) having: a means (10) to sense a shot has been fired from a gun using an accelerometer, pressure transducer, or other suitable mechanical means transducer (Morris et al.: col. 2, lines 3-45); a means to measure the time interval (i.e. time difference) between shots so that the firing rate may be determined via a control module (11) (Morris et al.: col. 2, lines 20-25); (as recited in claim 1); records the interval between firing of shots via recording module (12) (as recited in claims 2 and 4), provides an interface to transfer data from the device to a computer or other data collection device (reader) (14) (as recited in claim 5), automatically recording the time, date and year the time of use of the gun (Morris et al.: col. 2, lines 50-52); wherein the details regarding the specific gun includes a serial number (Morris et al.: col. 2, line 66); wherein the data can be stored permanently (i.e. non-volatile memory storage, and obvious and well known type of data storage) (Morris et al. col. 2, lines 59-61) (as recited in claim 8 and 9). However, Morris et al. do not expressly disclose the employment of a means to sense and record the temperature of the barrel during firing of the gun (as recited in claims 1 and 3). Matter teaches a small-arm (100) device (Figs. 1-13) having a temperature sensor (110) mounted adjacent to the barrel (104) (see Fig. 8 below) that in turn, activates a cooling system (102). It would have been obvious to one having ordinary skill in the art at the time the invention was made to add a temperature sensor to the device for collecting data on small-arms usage disclosed by Morris et al., as taught by Matter, so the temperature of the barrel/gun can be monitored as well as increasing the accuracy of the gun and reducing its heat signature (Matter: col. 1, paragraph 2, to col. 2, paragraph 9). In specific regards to claims 6 and 10-11, a computing device (i.e. data reader (14)) which collects the data recorded having all the features in the claims, such as, data recorded in a histogram format, retrievable file (common and

Art Unit: 2856

well known HDD or other types of disk drive storages having file formats) and interfaces (i.e. wires/cables, IR/RF transmitters, connecting/receiving ports) are well known to those of ordinary skill in the art and well within the design choice to display the data in any statistical format desired, including a histogram format, or any other format for aiding in subsequent analysis.

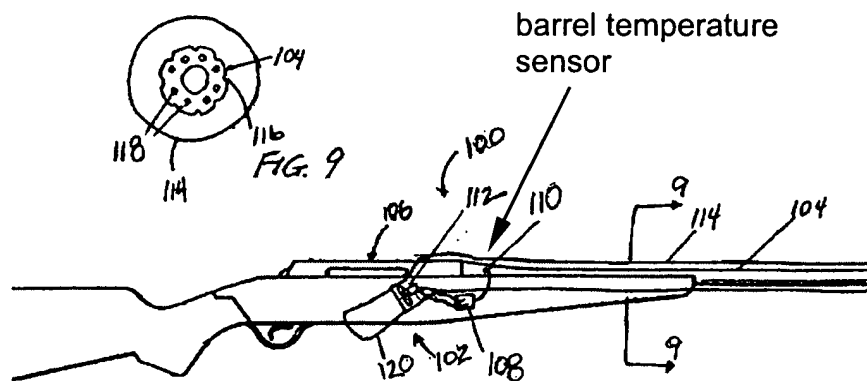
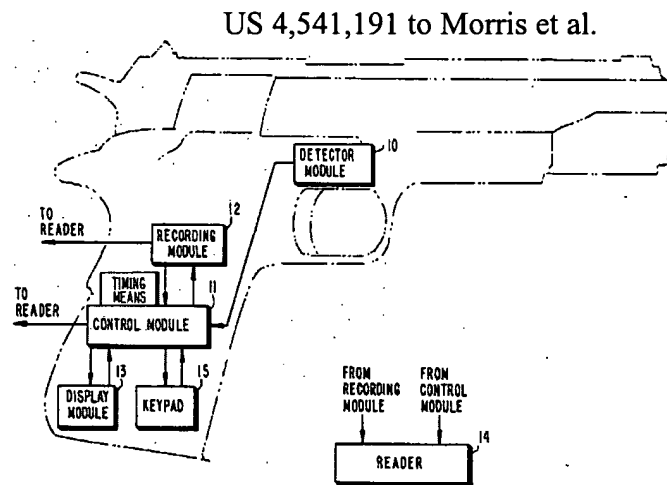


FIG. 8 US 20030167909 A1 to Matter

9. Claims 19, 25, 26, 28, 31 and 32 rejected under 35 U.S.C. § 103(a) as being unpatentable over US 5,402,678 to Fritz et al. as applied to claim 15 above, and further in view of US 20030167909 A1 to Matter. Fritz et al. disclose an electronic system for small-arms having all of the elements stated previously. Fritz et al. do not expressly disclose an electronic system

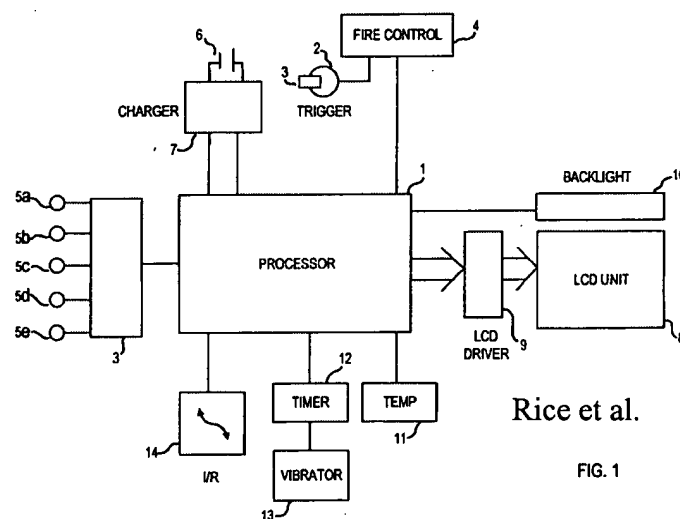
Art Unit: 2856

having a supply means being an RF detector (as recited in claim 19), measuring the barrel temperature using a thermocouple or infrared detector (as recited in claims 25, 26, 28); or wherein the measured temperature data is stored in a statistical/histogram format (as recited in claims 31 and 32). Matter teaches a small-arms (100) device (Figs. 1-13) having a temperature sensor (110) (note: thermocouples and/or infrared detectors, are common and well known temperature measurement devices (as well as many other types) and are well known to one of ordinary skill in the measurement and testing arts and employment of any type of temperature measurement device is considered a design choice based on needs such as power consumption, size, weight, etc.) mounted adjacent to the barrel (104) (see Fig. 8 below) that in turn, activates a cooling system (102). It would have been obvious to one having ordinary skill in the art at the time the invention was made to add a temperature sensor to the device for collecting data on small-arms usage disclosed by Morris et al., as taught by Matter, so the temperature of the barrel/gun can be monitored as well as increasing the accuracy of the gun and reducing its heat signature (Matter: col. 1, paragraph 2, to col. 2, paragraph 9). In specific regards to claims 31 and 32, recording the temperature data in a statistical/histogram format is considered well known to those of ordinary skill in the art and well within the design choice to display the data in any statistical format desired, including a histogram format, or any other format for aiding in subsequent analysis.

10. Claim 22 is rejected under 35 U.S.C. § 103(a) as being unpatentable over US 5,402,678 to Fritz et al. as applied to claim 15 above, and further in view of US 6,311,682 to Rice et al. Fritz et al. disclose an electronic system for small-arms having all of the elements stated previously. Fritz et al. do not expressly disclose an electronic system having a programmable

Art Unit: 2856

hold-off period. Rice et al. disclose an electronic system for monitoring small-arms (Figs 1-3) that has a programmable –safe- or “hold-off” period, as well as other programmable setting and functions that control and make measurements of the small-arms usage. It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ a programmable hold-off period or –safe- mode, as taught by Rice et al., modifying the electronic system disclosed by Fritz et al., thus providing a programmable control system for the small-arm putting it in a –safe- mode when not in use, or a –live- mode during use (Rice et al.: col. 1 lines 20-30 and col. 4, lines 41 to 60).



Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Ojalvo, Levine, Mason, Deas, Cox et al., Hasenbein et al., Davis et al., Engeler et al., Schmidt, Muher et al., Isgen, Williams, Ishida et al., Aso, Engeler et al., Kirstein, Rothkirch et al. and Buchwald et al. all disclose various aspects of the claimed invention, including temperature measurement means and measurement of firing rates and intervals of small-arms.

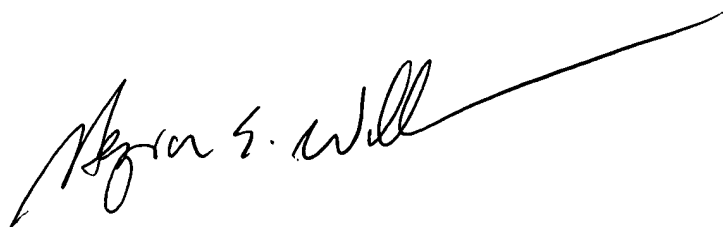
Art Unit: 2856

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Fitzgerald whose telephone number is (571) 272-2843. The examiner can normally be reached on Monday-Friday from 7:00 AM to 3:30 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams, can be reached on (571) 272-2208. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



JF

09/14/2004



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